What is claimed is:

1. A method of manufacturing a semiconductor device, comprising:

forming a gate insulating film on a first conductivity type layer of a semiconductor substrate;

forming on the gate insulating film, a gate electrode having slits at, at least, one ends thereof on the drain electrode forming predeterminate side;

selectively implanting a second conductivity type impurity in the first conductivity type layer with the gate electrode as a mask; and

effecting heat treatment to activate the impurity and integrating impurity regions in which the impurity is implanted in the slits, and impurity regions in the neighborhood of the slits, in which the impurity is implanted in portions outside the gate electrode, thereby forming a pair of second conductivity type layers which overlap on, at least one sides on the drain electrode forming predeterminate side, of the gate electrode; and

forming within the pair of second conductivity type layers, a pair of second conductivity type high-density layers which are spaced away from the gate electrode and adapted to contact source and drain electrodes respectively.

2. The method according to claim 1, wherein the

length from an end of each of the slits to an end of the gate electrode in the vicinity of the slit is formed to a length in which the impurity region in which the impurity is implanted in the slit and the impurity region in the neighborhood of the slit, in which the impurity is implanted in the corresponding portion outside the gate electrode, are integrated by transverse diffusion based on heat treatment.

3. A semiconductor device comprising:

a pair of second conductivity type layers formed away from each other within a first conductivity type layer of a semiconductor substrate;

a gate insulating film formed over the first conductivity type layer and the pair of second conductivity type layers;

a gate electrode formed on the gate insulating film so as to connect the pair of second conductivity type layers and overlap with the second conductivity layers on, at least, one sides on the drain electrode forming predeterminate side, said gate electrode having slits at portions above ends of the overlapped second conductivity type layers; and

a pair of second conductivity type high-density layers respectively formed within the pair of second conductivity type layers so as to be spaced away from the gate electrode and to contact a source electrode and a

drain electrode respectively.

4. A semiconductor device according to claim 3, wherein the second conductivity type layers are lower in density than other portions at portions below ends of the gate electrode, which are located outside the slits.

5. A semiconductor device according to claim 3, wherein a length in which said each second conductivity type layer and the gate electrode overlap, is determined according to a device high breakdown voltage.